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April 26, 1991 5HS-11

Joe Adams, P.E.
Warzyn Engineering Inc.
2100 Corporate Drive
Addison, Illinois 60101

Re: Summary of Teleconference - FS Task I Technical Memo - ACS NPL Site - Griffith, Indiana

Dear Mr. Adams:

The purpose of this letter is to summarize the teleconference between yourself, Jim Burton of Roy F. Weston, and myself on Monday February 4, 1991.

As we mentioned during the conference, we had three main concerns with regard to the focus, direction and content of the FS. The first issue is the omission of the Village of Griffith municipal landfill from consideration in the formulation of alternatives for the site. The second issue concerns the fate of contaminated groundwater residing outside the boundary of the currently proposed slurry wall. And the third issue concerns a suggestion to further segregate site contamination into more distinct chemical groups e.g., VOC only contaminated soil, VOC and SVOC contaminated soil, VOC, SVOC & PCB contaminated soil etc.

Griffith Landfill

A major concern to USEPA, the first issue concerns the omission of the Griffith landfill from consideration in the listing of alternatives (it is noteworthy that the risk assessment has not addressed the landfill either). The closed portion of the Griffith landfill is part of the ACS NPL site. The landfill was incorporated into the site, due to evidence provided by ACS and others, that the closed portions of the landfill had been used by ACS and Kapica Drum for the disposal of hazardous wastes.

As part of the remedial investigation, leachate wells were placed inside of the inactive portion of the Griffith landfill and monitor wells were placed outside of this portion of the landfill. Both sets of wells were sampled and analyzed for the full list of Superfund compounds and parameters. The gathered information should be sufficient to complete a risk calculation on the landfill, its contents, and the media effected by it. Following the risk calculation, the landfill must then be addressed in the

FS. Depending upon the relative risk posed by the landfill, the alternatives presented in the FS, and the current regulatory and statutory status of the landfill, EPA will render a decision on the best approach to address the risks posed by the Griffith landfill. EPA is required to make this decision as part of the NCP and CERCLA. In conclusion, the Griffith landfill cannot be ignored in the risk assessment or the FS.

Slurry Wall Exterior Groundwater

The second issue we discussed concerns the fate of contaminated groundwater outside of the slurry wall. Chapter 3 of the FS does not address this issue, even though it is obvious from the RI report that heavy groundwater contamination exists beyond the border of the proposed slurry wall. During the conference call, Warzyn mentioned that production wells were anticipated but were mistakenly omitted from the figures and discussion.

The groundwater model introduced in Task 2 did not account for pumping outside of the slurry walled area. If a pump and treat system were to be introduced for groundwater outside of the slurry walled area, the effect of such a system on the groundwater flow system is questionable.

We are concerned with the effect that production wells will have on the groundwater elevations both inside and outside of the slurry walled area and what appears to be a probable reliance on simple pump and treat technologies for the contaminated groundwater outside of the slurry-walled area. We would argue that the area outside of the proposed slurry wall boundary would be a prime candidate for in-situ methods such as bioremediation or steam stripping. This is supported by the fact that the majority of contaminants in the groundwater and soils are comprised mainly of BETX compounds.

Another more philosophical point concerns your proposal during the conference that groundwater outside the slurry wall boundary would be remediated by a pump and treat system, presumably with treatment occurring in an exclusive on-site treatment system such as an air stripper, etc. This tends to oppose your reasoning for the elimination of groundwater pump and treat remedies as a stand alone remedy for groundwater, which is the basis for your elimination of Alternative 4.

We agree with you that groundwater pump and treat methods alone are probably not an adequate remedy for contaminated upper aquifer groundwater at the site. This is due to the degree of the contamination and the amount of time it is expected to take to complete the remedy. We believe that any pumping and treatment of

contaminated groundwater should be part of an overall system (e.g., in-situ methods, flushing methods, vapor extraction, etc.) for remediation of the aquifer and not the sole method.

Another alternative that should be considered here is the expansion of the slurry walled area to encompass the entire plume boundary. It is recognized that this alternative would place some wetland areas in jeopardy, however, this option should be considered and the cost and benefits established in the alternatives.

Further Segregation of Media Based on Major Contaminant Groups

The third issue requests a further breakdown of contaminated media into more distinct groups. This issue has some relation to the previous issue. The current configuration and breakdown of the contaminated media in the listing of alternatives, assumes three differing conditions for site soils and groundwater. It breaks down the contaminated media into three parts VOC & SVOC; VOC, SVOC & PCBs; and VOC, SVOC, PCBs & metals. From the risk assessment, it is apparent that the majority of the risk posed by the site lies principally with the benzene found in the site's groundwater and soils. There exists fairly large areas of predominantly BETX and chlorinated ethane contamination in the groundwater and soils. Contamination near source areas includes heavier concentrations of SVOCs into the groundwater and soils. However, the majority of soil and upper aquifer groundwater contamination appears to be due to BETX and chloroethane contamination.

In the screening of alternatives, it is apparent that some technologies which are likely to work for VOCs, but may only produce limited efficacy for SVOCs and PCBs may, or have been screened out based upon their limitations with respect to SVOCs and PCBs. The focus of the document seems to be attempting to find a technology which will treat all the contaminants at the site as one unit. It may be more appropriate to examine how segregating the site into distinct contaminant zones would address all concerns at the site. For example, if a SVOC plume edge line could be drawn within the general proximity to the source areas on-site, the SVOC plume and source areas could be treated as one segregated area and treated differently from the predominantly VOC contaminated groundwater and soils which surround these areas. Or, PCB and metals contaminated areas could be removed prior to in-situ treatment of the remaining materials (to include VOC & SVOC areas). Or PCB, metals and areas heavily contaminated with SVOCs could be treated by removal and the remaining groundwater and soils treated by various in-situ methods. Generally, the point being that separation of major contaminant groups could lead to different alternatives for different areas of the site based upon the predominant contaminants.

Enclosed as Attachment 1, are the various points we discussed with you during the teleconference. They are included here to aid you in their incorporation into the draft FS report. You are reminded that these points are not intended to be formal USEPA comments on the FS, but are intended to provide you with some direction in its development. This in the hope that extensive revisions to the FS can be avoided during formal review.

If you have any questions concerning the points addressed in this letter or the enclosure, please do not hesitate to contact me, at (312) 886-5116.

Sincerely,

Robert E. Swale
Remedial Project Manager

cc: Reginald Baker, IDEM

bcc: Steve Siegel, ORC

ATTACHMENT 1

FS TASK 2 TELECONFERENCE POINTS

1. Page 4, Bullet 1 - Groundwater outside of the slurry walled area needs to be included in the list of alternatives and in the evaluation of technologies. Also, the effect of any treatment systems outside of the slurry walled area must be discussed in terms of its effect upon the activities inside of the slurry wall and the wetland areas of the site.

2. Page 12 - The discussions concerning the fate of contaminated groundwater outside of the slurry walled area needs to be included here. Also, the various treatment systems proposed for the groundwater outside of the slurry walled area, needs to be included within the body of the text here.

3. Page 13, Paragraph 4 - A cost comparison between a two slurry wall system and a single slurry wall system needs to be added to the discussion here. Additionally a groundwater model comparison of the two systems needs to be introduced here to determine if a two slurry wall system will perform similarly to a single slurry wall system.

4. Page 17, Paragraph 3 - The ability of the current POTW conveyance system to handle an increase in flux due to a the addition of a groundwater treatment system needs to be factored into the discussion of this process option. It is noteworthy that if the present system could not handle the increased flux, the requirement to increase capacity could add significantly to this process option's cost.

5. Page 18, Paragraph 2 - Discussion needs to be included here which would outline the expected effect that direct discharge would have to the natural water way systems on and near the site.

6. Page 19, Section 3.3.5 - Warning signs should also be included as an option for limiting access to wetland areas, where placement of a fence may be difficult.

7. Page 26, Paragraph 1 - Chemical precipitation may be eliminated but should be held in reserve if it appears that ion exchange is not capable of eliminating the metals of concern.

8. Page 27, Paragraph 5 - It should be mentioned here that UV/Oxidation would require significant treatability and pilot studies before it could be implemented full scale at the site.

9. Page 35, Paragraph 3 - The unit and capital costs associated

with the POTW technology were not included in Table 3-5. Please include these costs in the FS document.

10. Page 35, Paragraph 4 - It should be mentioned here to avoid confusion to the reader, that the POTW process option was retained as a secondary treatment option for contaminated water from the site.

11. Page 36 - The discussion centering on the implementability of in-situ aerobic biological treatment only seems to mention the inability of the process to adequately treat the chlorinated organic compounds in the groundwater system. It goes on to say that to adequately treat these compounds in-situ would require an anaerobic system as well.

The discussion is lacking somewhat in its presentation of the advantages of in-situ bioremediation. In-situ bioremediation, if feasible to implement, is known to significantly shorten the time required for the removal of common petroleum hydrocarbons such as benzenes and other hydrocarbons which are known to have high retardation factors, are hydrophobic and have low solubility, by treating them through respiration within the aquifer matrix. This is in preference to pumping high volumes of water out of the system, and waiting for the process of departitioning to release the remaining contaminants into the groundwater for an unknown probably lengthy period of time.

It seems in the text that the presence of chloroethane is the main inhibitor to the aerobic process in groundwater. However, it is unclear from the text whether chloroethane has the same characteristics as the BETX compounds in the groundwater system. This is in terms of solubility, partitioning coefficients, etc. which will affect the mobility of the contaminant. It is also unclear whether or not chloroethane would have any major detrimental effect upon aerobic biological processes in the aquifer. The question arises: If chloroethane were to be highly mobile in comparison to the BETX compounds in groundwater and would not significantly inhibit aerobic biological process in-situ, why could not chloroethane be treated outside of the aquifer in a secondary treatment system? Typically with in-situ treatment systems, the groundwater taken out of the system has to undergo some degree of treatment either in the form of oxidation or aeration prior to replacement to enhance the biological processes. With that the case, it is possible that chloroethane could be removed by air stripping etc. which in turn could be used as part of an aeration system for the in-situ aerobic treatment system.

12. Page 37, Paragraph 2 - The reasoning for the elimination of bioremediation by virtue of its ineffectiveness for treating wastes is not sufficient reason for its exclusion. This statement should be removed from this section's text, since this process option was primarily being investigated as an option to remediate groundwater, surface water and soils. Its effectiveness for remediating waste materials was not at issue in this section of the discussion. This technology should not be eliminated at present time, due to its high potential for cleanup in areas outside of the proposed slurry wall area and due to a lack of sufficient technical argument against it.

13. Page 41 - The issue of cost for off-site incineration of PCB wastes should include a "break point" volume for which off-site incineration would no longer be cost-effective, as compared to on-site incineration. The break point volume should account for the capital costs associated with designing the system, mobilization and performing the test burn.

14. Page 42, Paragraph 2 - Capital costs need to included in the cost comparison between on-site and off-site incineration.

15. Page 42, Paragraph 5 - EPA has accepted this technology at other sites (the ACME site in particular). It should also be mentioned here that many vendors offer a wide range of temperatures depending upon the wastes involved.

16. Page 45, Paragraph 4 - More information is necessary to validate the claim that high organic levels could cause an overload of the off-gas treatment system. Either theoretical or site-related information is necessary prior to eliminating this option. Also this option should not be eliminated at this time due to its potential for the treatment of smaller PCB and metals contaminated areas.

17. Page 52, Paragraph 4 - In-situ biological treatment should be retained since adequate information has not been provided for its elimination from consideration for the treatment of soils.

18. Page 61, Paragraph 2 - Generally, the alternatives formed in the text should be addressed in the corresponding tables. It is confusing, when trying to correlate the alternatives in the text to the alternatives in the tables. Each alternative should be outlined in one of the tables and its elimination or retention pointed out (either by shading the text etc.). A final table of alternative for chapter 4 can be introduced for reference in addition to a table that matches the text.

19. Tables 3-2 and 3-3 - The ARARs pertaining to solid waste landfills should be included in these tables.

20. Table 3-3, Page 5, Column 3, Item 4 - Please clarify that the 50 PPM standard applies to PCB concentrations.

21. Table 3-5a - The assumed volume upon which Annual Operating Costs are calculated should be footnoted.

22. Table 3-6 - Two additional columns should be added to this table. First, groundwater should be separated into groundwater predominantly contaminated with VOCs; and groundwater contaminated with VOCs and high levels of SVOCs. Second, an additional column for soils and sediments predominantly contaminated with VOCs should be added. This correlates with the introductory comments in the letter.

23. Table 3-6 - Under Alternative 7, the reference to biological treatment should refer to more specific process options (e.g., bio-slurry) rather than the broader technology type. This comment is intended to retain consistency in the table, since for other alternatives, specific process options were included.

24. Appendix A - Contour maps for a dual slurry wall system should be included in the figures. Modeling of the dual system is referred to in earlier discussions but contour maps are not included.